

2017

Curricular Report No 2017-18-2 from the Graduate Council to the Faculty Senate: Curricular Changes

University of Rhode Island Faculty Senate

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Serial Number #17-18-7B

TO: President David Dooley
FROM: Mark Conley, Chairperson of the Faculty Senate

1. The attached BILL titled, Curricular Report No 2017-18-2 from the Graduate Council to the Faculty Senate: Curricular Changes, is forwarded for your consideration.
2. This BILL was adopted by vote of the Faculty Senate on November 16, 2017.
3. After considering this bill, will you please indicate your approval or disapproval. Return the original, completing the appropriate endorsement below.
4. In accordance with Section 10, paragraph 4 of the Senate's By-Laws, this bill will become effective December 7, 2017 three weeks after Senate approval, unless: (1) specific dates for implementation are written into the bill; (2) you return it disapproved; or (3) the University Faculty petitions for a referendum.



Mark Conley
Chairperson of the Faculty Senate

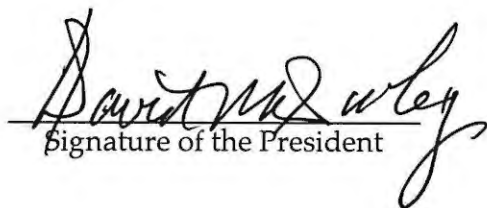
November 16, 2017

ENDORSEMENT

TO: Chairperson of the Faculty Senate

FROM: President of the University

- a. Approved ☒.
- b. Approved subject to Notice of the Council on Postsecondary Education ____.
- c. Disapproved ____.


Signature of the President

11.28.17
(date)

Graduate Curriculum Committee Report # 2 October and November 2017

Notice of Change

College of Arts and Sciences: Political Science (Appendix A)

Change name of Master of Arts in Political Science to Master of Arts in International Relations

Medical Physics (Appendix B)

Discontinue comprehensive exam.

Correct catalog copy.

College of the Environment and Life Sciences:

Master's in Environmental and Scientific Management (Appendix C)

Expanding requirements of culminating experience.

College of Education and Professional Studies:

School of Education (Appendix D)

Master's in Education and Master's in Special Education will no longer require the comprehensive exam.

APPENDIX A

Notice of Change of Requirements for Political Science Masters of Arts (MA) Degree Date: March 4th, 2017

A. PROGRAM INFORMATION

1. Name of institution

University of Rhode Island

2. Name of department, division, school or college

Department: Political Science; College: Arts & Sciences

3. Intended initiation date of program change. Include anticipated date for granting first degrees or certificates, if appropriate.

Initiation date: September 2018

First degree date: May 2019

4. Intended location of the program

Department of Political Science, College of Arts & Sciences

5. Summary description of proposed program (not to exceed 2 pages). If applicable, please include the existing URI catalog language and proposed catalog language changes that relate to your request.

We propose to officially change the name of the existing Masters of Arts (MA) in Political Science degree to a Masters of Arts (MA) in International Relations. This change in the degree name more accurately reflects the substantive content of the program following the revisions that shifted the program's focus toward specialization in international relations, diplomacy, and experiential learning. The curriculum changes to the M.A. program supporting these revisions were approved by the Faculty Senate on December 8, 2016. This name change to the program will extend to the listed degree issued in students' official transcripts and diplomas. The change in the degree name will go into effect starting the 2018-2019 academic year.

This change will also update the CIP code (Classification of Instructional Programs) for the major and degree from 45.1001 (Political Science) to 45.0901 (International Relations and Affairs).

Other than the name change for the M.A. program the catalog language for the M.A., M.P.A. Program, and the M.P.A. and M.L.I.S. Cooperative Program remain unchanged.

Existing Catalog Language:

Faculty: Professor Krueger, chair. Professors McIntyre, Moakley, and Petro; Associate Professors Hutchison, Johnson, and Pearson-Merkowitz; Assistant Professors Jomaa, Leedahl, Ley, Parker, and Xu; Adjunct Professors Kelley, Leazes, and Profughi; MPA Director Weygand.

SPECIALIZATIONS

International relations, comparative politics, diplomacy, international development, global peace studies, public policy, and public administration.

MASTER OF ARTS

Admission requirements: undergraduate credit in political science or related discipline; current scores from the GRE, GMAT, or MAT are required for applicants with a cumulative undergraduate GPA below 3.0

Program requirements: a minimum of 30 credits, including 12 credits in required core courses and 9 credits in concentration courses. The required core courses are PSC 580, PSC 584, PSC 585, and NVP/PSY 500. For a concentration in diplomacy, select three courses from PSC 553, PSC 577, PSC 586, PSC 581, PSC 582, PSC 555, and PSC 556. For a concentration in international development, select three courses from PSC/LRS 521, PSC 544, PSC 553, PSC 581, PSC 582. For a concentration in global peace studies, select three courses from PSY 478, PSY 690, PSC 546, PSC 586, PSC 581, PSC 582. Courses can be applied to only one concentration. Students can apply no more than two special topic seminars (PSC 581, PSC 582) to fulfill their concentration requirements. Thesis and nonthesis options. Nonthesis option requires one course with a substantial paper requirement that involves significant independent research and a comprehensive examination with written and oral components.

Proposed Catalog Language:

Faculty: Professor Krueger, chair. Professors McIntyre, Moakley, and Petro; Associate Professors Hutchison, Johnson, and Pearson-Merkowitz; Assistant Professors Jomaa, Leedahl, Ley, Parker, and Xu; Adjunct Professors Kelley, Leazes, and Profughi; MPA Director Weygand.

SPECIALIZATIONS

International relations, comparative politics, diplomacy, international development, global peace studies, public policy, and public administration.

MASTER OF ARTS IN INTERNATIONAL RELATIONS

Admission requirements: undergraduate credit in political science or related discipline; current scores from the GRE, GMAT, or MAT are required for applicants with a cumulative undergraduate GPA below 3.0

Program requirements: a minimum of 30 credits, including 12 credits in required core courses and 9 credits in concentration courses. The required core courses are PSC 580, PSC 584, PSC 585, and NVP/PSY 500. For a concentration in diplomacy, select three courses from PSC 553, PSC 577, PSC 586, PSC 581, PSC 582, PSC 555, and PSC 556. For a concentration in international development, select three courses from PSC/LRS 521, PSC 544, PSC 553, PSC 581, PSC 582. For a concentration in global peace studies, select three courses from PSY 478, PSY 690, PSC 546, PSC 586, PSC 581, PSC 582. Courses can be applied to only one concentration. Students can apply no more than two special topic seminars (PSC 581, PSC 582) to fulfill their concentration requirements. Thesis and nonthesis options. Nonthesis option requires one course with a substantial

paper requirement that involves significant independent research and a comprehensive examination with written and oral components.

6. Signature of the President

David M. Dooley

Appendix

- **Master of Arts in Political Science Program Description-** The MA degree in Political Science is designed for U.S. and international students who are working, or intend to work, in the area of international relations, diplomacy, international development, peace studies, or intend to continue their education. The MA program prepares students to apply theories and practices to real-world global problems.
 - **General Program Requirements**
 - 30 credits (12 credits from required core course, 9 credits from concentration courses, 9 free electives)
 - Successful completion of a thesis or a comprehensive Masters' examination (written and oral components)
 - Maintenance of a 3.0 GPA

Specific Concentration Requirements

*New Course Proposal

**Modified Existing Course

- **Diplomacy Concentration Requirements**
 - 30 credits
 - Successful completion of a thesis or a comprehensive Masters' examination (written and oral components)
 - Maintenance of a 3.0 GPA
 - Required Classes
 - Seminar in International Relations Theory (PSC 580)
 - Seminar in Comparative International Development (PSC 584)**
 - Diplomacy and Statecraft (PSC 585)*
 - Theory and Research on Nonviolence and Peace (NVP 500/PSY 500)
 - Elective Classes (at least three courses)
 - Scope and Methods of Political Science (PSC 553)
 - Directed Study – Naval War College Internship (PSC 555, PSC 556)
 - International Ocean Law (PSC/MAF 577)
 - Special Topics Seminar on Politics of China (PSC 581/582)
 - Special Topics Seminar on Religion and International Relations (PSC 581/582)
 - Political Violence and Conflict Resolution (PSC 586)*
- **International Development Concentration Requirements**
 - 30 credits
 - Successful completion of a thesis or a comprehensive Masters' examination (written and oral components)
 - Maintenance of a 3.0 GPA
 - Required Classes
 - Seminar in International Relations Theory (PSC 580)
 - Seminar in Comparative International Development (PSC 584)**
 - Diplomacy and Statecraft (PSC 585)*
 - Theory and Research on Nonviolence and Peace (NVP 500/PSY 500)
 - Elective Classes (at least three courses)
 - Global Politics of Work and Welfare (PSC/LRS 521)**
 - Democracy and Its Critics (PSC 544)
 - Scope and Methods of Political Science (PSC 553)
 - Special Topics Seminar on Non-Governmental Organizations (PSC 581/582)
 - Special Topics Seminar on Politics of China (PSC 581/582)
 - Special Topics Seminar on Politics of Islam and the Middle East (PSC 581/582)

○ **Global Peace Studies Concentration Requirements**

- 30 credits
- Successful completion of a thesis or a comprehensive Masters' examination (written and oral components)
- Maintenance of a 3.0 GPA
- Required Classes
 - Seminar in International Relations Theory (PSC 580)
 - Seminar in Comparative International Development (PSC 584)**
 - Diplomacy and Statecraft (PSC 585)*
 - Theory and Research on Nonviolence and Peace (NVP 500/PSY 500)
- Elective Classes (at least three courses)
 - Applications in Psychology (PSY 478)
 - Seminar: Contemporary Issues in Psychology (PSY 690)
 - Peace and World Order Studies (PSC 546)
 - Special Topics Seminar on Non-Governmental Organizations (PSC 581/582)
 - Special Topics Seminar on Politics of Islam and the Middle East (PSC 581/582)
 - Political Violence and Conflict Resolution (PSC 586)*

Revised Curriculum Map for MA in Political Science

Program Requirements:

30 credits; 10 total courses; 4 required courses (R)

Three concentrations: Diplomacy, International Development, Global Peace Studies

3 elective courses (E) from one area to fulfill concentration requirements

Masters Thesis or Comprehensive Exam (Non-thesis option)

International Relations	
R	PSC 580: Seminar in International Relations Theory (Marc Hutchison)

Diplomacy	
R	PSC 585: Diplomacy and Statecraft (Nicolai Petro)
E	PSC 581/582: Special Topics Seminar on Religion and International Relations (Nicolai Petro)
E	PSC 586: Political Violence and Conflict Resolution (Marc Hutchison)
E	PSC 577: International Ocean Law (MAF)
E	PSC 556: Directed Study - Naval War College Internship (Nicolai Petro)
E	PSC 581/582: Special Topics Seminar on Politics of China (Ping Xu)
E	PSC 553: Scope and Methods of Political Science (Brian Krueger)

International Development	
R	PSC 584: Seminar in Comparative International Development (Kristin Johnson)
E	PSC 581/582: Special Topics Seminar on Non-Governmental Organizations (Kristin Johnson)
E	PSC 544: Democracy and Its Critics (Nicolai Petro)
E	PSC 521: Global Politics of Work and Welfare (LRS)
E	PSC 553: Scope and Methods of Political Science (Brian Krueger)
E	PSC 581/582: Special Topics Seminar on Politics of China (Ping Xu)
E	PSC 581/582: Special Topics Seminar on Politics of Islam and the Middle East (Katrin Jomaa)

Global Peace Studies	
R	PSY 500/NVP 500: Theory and Research on Nonviolence and Peace (Paul Bueno de Mesquita)
E	PSY 478: Applications in Psychology - Nonviolence and Peace (Paul Bueno de Mesquita)
E	PSY 690: Seminar of Contemporary Issues in Psychology on Civil Resistance (Paul Bueno de Mesquita)
E	PSC 546: Peace and World Order Studies (Kristin Johnson or Marc Hutchison)
E	PSC 586: Political Violence and Conflict Resolution (Marc Hutchison)
E	PSC 581/582: Special Topics Seminar on Politics of Islam and the Middle East (Katrin Jomaa)
E	PSC 581/582: Special Topics Seminar on Non-Governmental Organizations (Kristin Johnson)

Year 1

Fall Semester		
Course	Type	Instructor
PSC 580 - IR Theory	Requirement - All	Marc Hutchison
NVP 500 - Nonviolence and Peace Studies	Requirement - NVP	Paul Bueno de Mesquita
PSC 553 - Scope and Methods	Elective: Dipl. or Dev.	Brian Krueger
PSC 577 - Int'l Ocean Law	Elective: Dipl.	Marine Affairs

Spring Semester		
Course	Type	Instructor
PSC 581 - Non-Governmental Organizations	Elective: Dev. or NVP	Kristin Johnson
PSC 585 - Diplomacy and Statecraft	Requirement: Dipl.	Nicolai Petro
PSC 582 - Politics of Islam and the Middle East	Elective: Dev. or NVP	Katrin Jomaa
PSY 478 - Applications in Psych (NVP)	Elective: NVP	Faculty - Psychology

Year 2

Fall Semester		
Course	Type	Instructor
NVP 500 - Nonviolence and Peace Studies	Requirement - NVP	Faculty - Psychology
PSC 586 - Political Violence and Conflict Res.	Elective: Dipl. or NVP	Marc Hutchison
PSC 581 - Politics of China	Elective: Dipl. or Dev.	Ping Xu
PSC 577 - Int'l Ocean Law	Elective: Dipl.	Marine Affairs

Spring Semester		
Course	Type	Instructor
PSC 584 - Seminar in Comparative Int'l Dev.	Requirement: Dev.	Kristin Johnson
PSC 582 - Religion and IR	Elective: Dipl.	Nicolai Petro
PSY 690 - Civil Resistance	Elective: NVP	Paul Bueno de Mesquita
PSC 521 - Global Politics of Work and Welfare	Elective: Dev.	Ric McIntyre

Notice of Change form

Notice of Change for: Medical Physics Program

Date: 01.05.2017

A. PROGRAM INFORMATION

- 1. Name of institution:** University of Rhode Island
- 2. Name of department, division, school or college**
Department: Physics
College: Arts and Sciences
- 3. Intended initiation date of program change. Include anticipated date for granting first degrees or certificates, if appropriate.**
Initiation date: 09.01.2017
- 4. Intended location of the program:** Physics Department, URI
- 5. Summary description of proposed program (not to exceed 2 pages).**

Medical Physics program is a non-thesis Master's Program. We propose to discontinue the comprehensive exam beginning Fall, 2017. According to the program requirements, at least one course should be taken, which will require a substantial paper involving significant independent study. Correct graduate program catalog copy to include previously approved legislation.

Correct catalog copy for BS degree with previously approved legislation. Also, request approval of shifting the number of credits in sophomore year and removal of exam statement.

- 6. If applicable, please include the existing URI catalog language and proposed catalog changes indicated in Track Changes.**

See attached file. New changes are marked * and **; the other changes are older, legislated changes which have not made it into the catalog yet.

- 7. Signature of the President**

David M. Dooley

Physics

M.S., Ph.D.

401.874.2633

Faculty: Professor Andreev, *chair*. Professors: Andreev, Heskett, Kahn, Kaufman, Malik, Meyerovich, Muller, Nightingale, and Reshetnyak ~~and Steyerl~~; Assistant Professors: Antosh, Ganikhanov

Specializations

Astrophysics: high energy extragalactic radio astrophysics.

Biological physics: membrane biophysics; membrane-associated folding/unfolding; molecular motors; steady-state and kinetics fluorescence and circular dichroism studies; calorimetry; small angle x-ray scattering on biological objects (at the European Synchrotron Radiation Facility, Grenoble); fluorescence microscopy; fluorescence polarization microscopy; spectral analysis from cells; electric cell substrate impedance sensing on cells.

Computational physics: classical and quantum Monte Carlo methods, large-scale parallel computations, optimization, many-body interactions and invariants, finite-size scaling.

Experimental condensed matter physics: electronic and structural properties of surfaces and thin films studied via low-energy electron diffraction, Auger electron spectroscopy, photoemission techniques (in-house and at the Brookhaven National Laboratory synchrotron facility); surfaces and interfaces in thin films and multilayers studied via X-ray and neutron reflection and diffraction (in-house and at the National Institute of Standards and Technology reactor facility); epitaxial growth, magnetism in nanoparticles and on surfaces via neutron and X-ray scattering; characterization of Lithium Ion Batteries using Hard X-ray Photoemission Spectroscopy (HAXPES), Rutherford backscattering, and scanning tunneling microscopy; ultrafast dynamics of hot carriers in 2-dimensional materials studied with multi-color femtosecond spectroscopy; phonon decay and vibrational dynamics in traditional and soft condensed matter studied by coherent Raman spectroscopy techniques; sub-optical cycle waveform generation.

Experimental neutron physics: ultracold neutrons used to study beta-decay, neutron optics (at the Institut Laue-Langevin, Grenoble).

Medical physics, physics oncology and nanotechnology: novel approaches in drug delivery and tumor targeting; whole-body and *ex vivo* fluorescence imaging; gold and magnetic nanoparticles; laser and x-ray radiation; hyperthermia; liposome delivery.

Statistical physics: Bethe ansatz, density functional theory, fractional exclusion statistics, applications to spin systems, quantum gases, granular matter, and biological matter.

Theoretical condensed matter physics: surface physics, phase transitions and critical phenomena, critical dynamics, superconductivity, quantum transport, systems with random rough boundaries, nano-scale films and clusters, disordered systems, low-dimensional systems, spin dynamics, nonlinear optics.

Theoretical low-temperature physics: Fermi and Bose quantum liquids, solids and gases; spin-polarized quantum systems, ultracold neutrons in quantizing gravity field.

Master of Science

Admission requirements: GRE and advanced test recommended; bachelor's degree with major in physics preferred.

Program requirements: PHY 510, 520, 525, 530, 560, 570, and 580 are required of all students. For both the thesis and the nonthesis options, the student will complete 30 credits, of which no more than six may

be below the 500 level. For the nonthesis option, at least one course will require a substantial paper involving significant independent study, and the student must pass a final written and oral examination.

Five-Year Program in Medical Physics

The Physics Departments also offers a five-year program of studies leading to a B.S. in physics and a M.S. in medical physics. The M.S. degree part of the program requires that the student take PHY 540, 545, 550, 552, 555, 560, 565, 691, 610; SOC 224; ELE 562 + lab, ELE 564 + lab. The rest of the courses are those indicated on the schedule in the undergraduate section of this catalog (see "Medical Physics" under Physics in Arts and Sciences).

Master of Science in Medical Physics

Admission requirements: GRE and advanced test recommended; bachelor's degree with major in physics or related discipline.

Program requirements: PHY 540, 545, 550, 552, 555, 560, 565, 585, 591; ELE 564 + lab are required courses. The following are required introductory courses, which could be taken at URI or other places: BIO 121 + lab, 242 + lab; PHY 210; SOC 224. The student will complete 30 credits, of which no more than six may be below the 500 level. This is a nonthesis program which requires that at least one course will require a substantial paper involving significant independent study and the student must pass a final written and oral exam. * *

Criminal Background Checks and Trainings. All students must undergo a criminal background check annually during the professional years of the program using the College's approved vendor. The criminal background check must be completed prior to the spring semester of each year. Rhode Island Hospital participates in the program and requires certification that students have a clear criminal record (or a criminal record which, due to the timing or nature of the criminal behavior, or the relevant circumstances, does not, in the judgment of the site preclude the student's participation in the practicum/learning experience at their site). Students with criminal records, therefore, should be aware that their criminal record may preclude their participation in clinical experiences at the hospital, and as a result, their progression to meet the degree requirements may be impeded.

All students will be required to complete OSHA, HIPAA and Basic Life Support Training programs. The training programs must be completed prior to the spring semester of each professional year. Rhode Island Hospital participates in the program and requires training certifications.

Doctor of Philosophy

Admission requirements: GRE and advanced test recommended; bachelor's degree with major in physics preferred. Master's degree is not required.

Program requirements: PHY510, PHY520, PHY525, PHY530, PHY570, PHY580 are core courses required for all students. In addition to the core courses, students in the Physics track will be required to take: PHY610, PHY630, PHY670, PHY680, and either one of (PHY625, PHY 626). In addition to the core courses, students in the Applied Physics track will be required to take: PHY540, PHY 560, one of (PHY625, PHY 626), one of (PHY630, PHY670), and one of (PHY610, PHY680). The choice of tracks and courses should be done with adviser's approval. No replacements by courses from outside the Department are allowed. There is no formal departmental language requirement, although the candidate's committee may require demonstration of language proficiency. Successful completion of a qualifying examination is required of all students. *This examination is normally expected to be taken in the summer preceding the second year of studies.*

THE
UNIVERSITY
OF RHODE ISLAND
FACULTY SENATE OFFICE

Green Hall, 35 Campus Avenue, Kingston, RI 02881 USA p: 401.874.2816


THINK BIG  WE DO



Serial Number #16-17-24B

TO: President David Dooley
FROM: W. Michael Sullivan, Chairperson of the Faculty Senate

1. The attached BILL titled, Curricular Report No. 2016-17-5 from the Graduate Council to the Faculty Senate: Program Changes, is forwarded for your consideration.
2. This BILL was adopted by vote of the Faculty Senate on March 23, 2017.
3. After considering this bill, will you please indicate your approval or disapproval. Return the original, completing the appropriate endorsement below.
4. In accordance with Section 10, paragraph 4 of the Senate's By-Laws, this bill will become effective April 13, 2017 three weeks after Senate approval, unless: (1) specific dates for implementation are written into the bill; (2) you return it disapproved; or (3) the University Faculty petitions for a referendum.

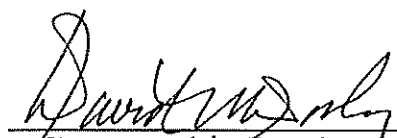

W. Michael Sullivan
Chairperson of the Faculty Senate

March 23, 2017

ENDORSEMENT

TO: Chairperson of the Faculty Senate
FROM: President of the University

- a. Approved ☒.
- b. Approved subject to Notice of the Council on Postsecondary Education ____.
- c. Disapproved ____.


Signature of the President

4.5.17
(date)

Graduate Council Curriculum Report # 5, March 2017

Notices of Change

College of Arts and Sciences Department of Physics (see Appendix A)

Change in catalog language.

The Medical Physics program is designed in partnership between the Physics Department, URI, and Rhode Island Hospital. According to hospital rules, background criminal checks need to be performed annually for all students. We propose to include specific language in the catalog which reflects this requirement. URI signed an agreement with RIH (see attached).

College of Health Sciences Department of Kinesiology (see Appendix B)

Change program requirements by making KIN 578 optional.

The proposed change is for a change to the core required courses for Master of Science degree for the Kinesiology graduate program. We wish to no longer require KIN 578, Cultural Studies of Physical Activity as a core required course. KIN 578 will become a required course for the Cultural Studies of Sport and Physical Culture track and will be an elective for the Exercise Science and Psychosocial/Behavioral Aspects of Physical Activity tracks. There will be a change to the required number of electives of these two tracks as a result.

Department of Physical Therapy (see Appendix C)

Changes to curriculum for DPT.

The Physical Therapy Department is submitting these course changes and new course proposals all as part of our Doctoral Curriculum, which to date has been 109 total for all students. The program consists of one cohort of 32 students that enroll annually and take all of the same courses as a cohort through the 3-year curriculum. The majority of these proposed changes are recommendations from our recent accreditation report (where we received the maximum 10 years renewal) and serve for curricular efficiency and clarity for future programming.

Notice of Change for: Medical Physics Program

Date: 01.05.2017

A. PROGRAM INFORMATION

1. Name of institution

University of Rhode Island

2. Name of department, division, school or college

Department: Physics

College: Arts and Sciences

3. Intended initiation date of program change. Include anticipated date for granting first degrees or certificates, if appropriate.

Initiation date: 09.01.2017

First degree date: -

4. Intended location of the program

5. Summary description of proposed program (not to exceed 2 pages).

The Medical Physics program is designed in partnership between the Physics Department, URI, and Rhode Island Hospital. According to hospital rules, background criminal checks need to be performed annually for all students. We propose to include specific language in the catalog which reflects this requirement. URI signed an agreement with RIH (see attached).

The information about the program can be found at:

<http://web.uri.edu/physics/medical-physics/>

6. If applicable, please include the existing URI catalog language and proposed catalog changes indicated in Track Changes.

See attached file.

7. Signature of the President

David M. Dooley

PHYSICS

M.S., Ph.D.

401.874.2633

Faculty: Professor Andreev, *chair*. Professors: Andreev, Heskett, Kahn, Kaufman, Malik, Meyerovich, Muller, Nightingale, Reshetnyak and Steyerl; Assistant Professor: Antosh, Ganikhanov

Specializations

Astrophysics: high energy extragalactic radio astrophysics.

Biological physics: membrane biophysics; membrane-associated folding/unfolding; molecular motors; steady-state and kinetics fluorescence and circular dichroism studies; calorimetry; small angle x-ray scattering on biological objects (at the European Synchrotron Radiation Facility, Grenoble); fluorescence microscopy; fluorescence polarization microscopy; spectral analysis from cells; electric cell substrate impedance sensing on cells.

Computational physics: classical and quantum Monte Carlo methods, large-scale parallel computations, optimization, many-body interactions and invariants, finite-size scaling.

Experimental condensed matter physics: electronic and structural properties of surfaces and thin films studied via low-energy electron diffraction, Auger electron spectroscopy, photoemission techniques (in-house and at the Brookhaven National Laboratory synchrotron facility); surfaces and interfaces in thin films and multilayers studied via X-ray and neutron reflection and diffraction (in-house and at the National Institute of Standards and Technology reactor facility); epitaxial growth, magnetism in nanoparticles and on surfaces via neutron and X-ray scattering; characterization of Lithium Ion Batteries using Hard X-ray Photoemission Spectroscopy (HAXPES), Rutherford backscattering, and scanning tunneling microscopy; ultrafast dynamics of hot carriers in 2-dimensional materials studied with multi-color femtosecond spectroscopy; phonon decay and vibrational dynamics in traditional and soft condensed matter studied by coherent Raman spectroscopy techniques; sub-optical cycle waveform generation.

Experimental neutron physics: ultracold neutrons used to study beta-decay, neutron optics (at the Institut Laue-Langevin, Grenoble).

Medical physics, physics oncology and nanotechnology: novel approaches in drug delivery and tumor targeting; whole-body and *ex vivo* fluorescence imaging; gold and magnetic nanoparticles; laser and x-ray radiation; hyperthermia; liposome delivery.

Statistical physics: Bethe ansatz, density functional theory, fractional exclusion statistics, applications to spin systems, quantum gases, granular matter, and biological matter.

Theoretical condensed matter physics: surface physics, phase transitions and critical phenomena, critical dynamics, superconductivity, quantum transport, systems with random rough boundaries, nano-scale films and clusters, disordered systems, low-dimensional systems, spin dynamics, nonlinear optics.

Theoretical low-temperature physics: Fermi and Bose quantum liquids, solids and gases; spin-polarized quantum systems, ultracold neutrons in quantizing gravity field.

Master of Science

Admission requirements: GRE and advanced test recommended; bachelor's degree with major in physics preferred.

Program requirements: PHY 510, 520, 525, 530, 560, 570, and 580 are required of all students. For both the thesis and the nonthesis options, the student will complete 30 credits, of which no more than six may be below the 500 level. For the nonthesis option, at least one course will require a substantial paper involving significant independent study, and the student must pass a final written and oral examination.

Five-Year Program in Medical Physics

The Physics Departments also offers a five-year program of studies leading to a B.S. in physics and a M.S. in medical physics. The M.S. degree part of the program requires that the student take PHY 540, 545, 550, 552, 555, 560, 565, 691, 610; SOC 224; ELE 562 + lab, ELE 564 + lab. The rest of the courses are those indicated on the schedule in the undergraduate section of this catalog (see "Medical Physics" under Physics in Arts and Sciences).

Criminal Background Checks and Trainings. All students must undergo a criminal background check annually during the professional years of the program using the College's approved vendor. The criminal background check must be completed prior to the spring semester of each year. Rhode Island Hospital participates in the program and requires certification that students have a clear criminal record (or a criminal record which, due to the timing or nature of the criminal behavior, or the relevant circumstances, does not, in the judgment of the site preclude the student's participation in the practicum/learning experience at their site). Students with criminal records, therefore, should be aware that their criminal record may preclude their participation in clinical experiences at the hospital, and as a result, their progression to meet the degree requirements may be impeded.

All students will be required to complete OSHA, HIPAA and Basic Life Support Training programs. The training programs must be completed prior to the spring semester of each professional year. Rhode Island Hospital participates in the program and requires training certifications.

Doctor of Philosophy

Admission requirements: GRE and advanced test recommended; bachelor's degree with major in physics preferred. Master's degree is not required.

Program requirements: PHY510, PHY520, PHY525, PHY530, PHY570, PHY580 are core courses required for all students. In addition to the core courses, students in the Physics track will be required to take: PHY610, PHY630, PHY670, PHY680, and either one of (PHY625, PHY 626). In

addition to the core courses, students in the Applied Physics track will be required to take: PHY540, PHY 560, one of (PHY625, PHY 626), one of (PHY630, PHY670), and one of (PHY610, PHY680). The choice of tracks and courses should be done with adviser's approval. No replacements by courses from outside the Department are allowed. There is no formal departmental language requirement, although the candidate's committee may require demonstration of language proficiency. Successful completion of a qualifying examination is required of all students. *This examination is normally expected to be taken in the summer preceding the second year of studies.*

CLINICAL EDUCATION AGREEMENT

This Agreement between University of Rhode Island a public institution of higher learning engaged primarily in education and practical training and accredited with the Commission on Accreditation of Medical Physics Educational Programs (CAMPEP) ("School") and Rhode Island Hospital, a Rhode Island not-for-profit corporation ("Facility"), is made as of the 4th day of October, 2016 and shall continue in effect until terminated as herein provided.

In consideration of the mutual promises set forth herein, the parties hereto agree that a program of supervised clinical and didactic experience in the area of (check one or more as applicable): ☐ Physical Therapy, ☐ Occupational Therapy, ☐ Speech Pathology, ☐ Respiratory Therapy, ☐ Nursing, ☐ Paramedic, ☐ Emergency Medical Technician, ☒ medical physics students [Other] (the "Program") shall be conducted by Facility for students of School under the following terms and conditions:

I. Responsibilities of School:

A. Student Qualifications.

1. **Pre-Requisites:** School shall ensure that only those students who have successfully completed all the prerequisite courses and/or previous clinical educational experiences as specifically requested or required by Facility and as are necessary to perform the tasks and services reasonably expected to be assigned to students in the Program in a safe and effective manner shall participate in the Program. If Facility currently requires, or at any time during the term of this Agreement adopts a policy requiring, previous clinical educational experience as a condition of participation in the Program, Facility shall set forth in writing the nature of such requirements and the specific clinical educational experience required as a condition of participation in the Program.
2. **Background Checks:** The School represents and warrants that it has completed a criminal background check that covers the six (6) month period immediately preceding the start date for any Student, and the results of such background checks did not reveal any information that the Facility has deemed to be disqualifying for work on its premises, as communicated by the Facility to the School. The School further represents and warrants that because the Facility may primarily provide services to minors, the School's agents, students or employees who will work on the Facility's premises have signed and returned to the Facility the statement attached as Exhibit #1. A student's failure or refusal to submit the attached statement, and to amend such statement as needed during an assignment, shall be grounds for immediate dismissal from the program.

- B. Student Records/School Curriculum.** School shall inform Facility in writing of the level of training each student has received prior to his/her participation in the Program and, upon request, shall provide Facility with a copy of each such student's academic/educational record to the extent the School is allowed to provide such record under state and federal law. Facility understands that its personnel may use such record only to determine eligibility for participation in the Program or in furtherance of the clinical experience for the student, and such record may not be disclosed to any person not affiliated with the Program without the student's prior written consent unless permitted under applicable law. School also shall

provide Facility with current information about its curriculum and clinical educational goals and objectives and shall promptly forward to Facility any change to its curriculum or clinical educational goals prior to the effective date of such change.

- C. **Insurance.** School agrees and represents that each student assigned to the Program shall be covered by Student Professional Liability insurance with limits of at least \$1,000,000 per occurrence and at least \$3,000,000 in the aggregate and that each faculty member of School who might come to the Facility as part of the Program shall be covered by Teachers Professional Liability insurance with limits of at least \$1,000,000 per occurrence and at least \$3,000,000 in the aggregate. School shall, upon request of Facility, furnish to Facility a certificate evidencing such insurance. School shall maintain such insurance in full force and effect during the term of this Agreement and such insurance shall name Facility as an additional insured and shall contain a provision that the insurer will not cancel or change the policy or policies without first providing Facility thirty (30) days prior written notice.
- D. **Program Coordination.** School will designate a faculty member of School as its Academic Coordinator of Clinical Education (ACCE) to work with an employee of Facility designated by Facility as its Coordinator of Clinical Education (CCE) in order to coordinate the academic and clinical aspects of each student's education. School shall have faculty available to students on site, if necessary under the circumstances, or readily accessible by telephone throughout the clinical period during which students are providing care. Each student's name and other relevant information shall be provided by School to Facility at least thirty (30) days prior to the start of such student's participation in the Program. The parties agree, however, that the School's ACCE is not permitted to access any identifiable information of patients of the Facility in the course of performing services under this Agreement. If such access is believed to be crucial at any point during the term of this Agreement, the parties agree to contact the Office of the General Counsel at Facility for guidance on whether such access is permissible under applicable law under the circumstances presented.
- E. **Program Cancellations.** In the event that it becomes necessary to change a student assignment to the Program, School shall notify Facility of such change at least one month in advance of the scheduled beginning of the assignment so that Facility can plan accordingly. If a last-minute cancellation or change is necessary, the ACCE shall call the CCE immediately.
- F. **Adherence to Facility Policies.** School shall inform its students and faculty participating in the Program of the requirement that they adhere to all of the policies and procedures of Facility, as in effect from time to time, including those relating to employee/student immunizations and health, maintenance of health insurance and delivery of the health care at Facility and the students' role in it. The student will be required to submit the necessary health information to the site prior to starting their placement.
- G. **Patient Confidentiality/Return of Records/Surveys.** The parties agree that all students participating in the Program and performing services under this Agreement shall be considered members of the workforce of Facility for purposes of compliance with the Health Care Portability and Accountability Act of 1996 and the regulations promulgated there under ("HIPAA"). As such, School shall inform students that they are required by law to comply with all HIPAA policies and procedures of Facility as well as all other federal and state laws

concerning patient confidentiality, and the School will further inform students that they must attend all HIPAA training sessions and related activities required by Facility. The parties agree that neither School nor any faculty member of School, including the ACCE, shall have the right to access patient identifiable information under this Agreement.

Furthermore, School agrees and shall inform each of its students and faculty participating in the Program that they must agree not to copy or use any confidential information of Facility, whether or not such information is patient related, for its or his/her benefit or the benefit of any third party, and School agrees that it shall require its students and faculty to adhere to this provision. School also agrees that it shall inform students participating in the Program to return promptly all of Facility's records and other property in student's possession at the conclusion or termination of student's participation in the Program. School further agrees, and shall inform its students and faculty that they must agree, not to engage in any research, including but not limited to any formal or informal survey or other study, relating in any way to Facility or its patients, without first obtaining Facility's written approval. This provision shall survive termination or expiration of this Agreement.

- H. **Certifications/Approvals.** School agrees and represents that it and its faculty currently have in effect, and will continue to have in effect during the term of this Agreement, all licenses, certifications, permits and approvals necessary to operate as an educational facility and to provide the type of instruction or education which it and they offer to students and/or for which School offers degrees.
- I. **Promotional Material.** School agrees that it will not publish, list or describe Facility or the Program in any marketing or promotional material or in any curriculum description or student handbook of any kind, nature or description without first obtaining Facility's written permission.

II. Responsibilities of Facility:

- A. **Program Objectives.** Facility shall provide a supervised program of clinical and didactic experience for qualified students of School based on objectives compatible with those of School. Before or contemporaneous with its execution of this Agreement, School shall provide Facility with a summary of its objectives concerning the academic aspects of the education it offers to students as well as its expectations of the objectives concerning the clinical experience to be provided by Facility in connection with the Program. Facility will provide qualified personnel to supervise the students directly during the clinical experience.

Facility shall designate and submit in writing to School the name and professional and academic credentials of the CCE, as well as the names and credentials of each student supervisor assigned by Facility to the Program.

- B. **Program Instruction/Patient Care/Assignment of Reimbursement.** Facility shall allow School's students participating in the Program to work with the appropriate Facility personnel, assisting when and where appropriate and applicable, and observing them in the performance of their daily duties; provided, however, that no student shall perform any patient care task in or on behalf of Facility without the assistance, presence or permission, as

the case may be under the circumstances, of an active member of Facility's professional staff. Students shall not and may not access areas of the Facility unrelated to their Program activities at Facility nor shall they be present in the Facility, except as a visitor or a patient, at times beyond those scheduled for Program activities. Facility shall retain full responsibility for patient care and welfare in the organization, administration, staffing, operation and financing of its services and the maintenance of standards accepted for the efficient management by the appropriate accrediting body. Facility may bill for the patient care services of School's students delivered at Facility and School shall not bill for such services. School agrees to assign, if deemed necessary by Facility, to Facility all rights to bill for such services, regardless of the class or type of patient to whom such services are or were delivered and regardless of the payor involved.

- C. **Program Plan.** Within thirty (30) days after the execution of this Agreement, upon School's request, Facility will submit to School a description of its current plan for the clinical experience, including objectives, learning activities, responsibilities of the students, nature of the supervision provided, and such other information as may be necessary to outline the content of the clinical experience offered throughout the Program.
- D. **Orientation.** Facility agrees to provide a brief orientation to the students assigned to the Program, including instruction on the relevant policies and procedures of Facility. Facility shall inform School and each student participating in the Program at least sixty (60) days prior to such student's participation of Facility's current policy on required immunizations and physical exams for students in general. Facility further agrees to provide the same information and protection to the students in matters of health and safety as it provides to its employees in compliance with the standards set by the Occupational Safety and Health Administration (OSHA) and applicable law.
- E. **Program Participation Limit/Scheduling.** The number of School's students who can participate in the Program for any given period of time shall be determined by Facility from time to time in its sole discretion and will be a function of Facility's philosophy, available space, patient population and staffing resources. School and Facility shall mutually determine from time to time the length of time appropriate for student assignments to the Program. In addition, Facility and School shall mutually determine from time to time the schedule of days and hours students shall be assigned to the Program.
- F. **Program Changes.** Facility agrees to inform School of any changes in staffing or in the Program that will affect the clinical experience of School's students. Facility will use its best efforts to inform School of such changes at least one month prior to the implementation of such changes.
- G. **Emergency Care.** Facility agrees to provide immediate emergency medical care to School's faculty and students participating in the Program, at their own expense, in the event of injury or illness occurring at Facility's premises. The parties acknowledge and agree that such medical care or services provided by Facility shall be the financial responsibility of the student or faculty receiving such care and/or services.
- H. **Program Evaluations.** Facility agrees, upon request, to inform periodically both School and each student participating in the Program of such student's level of clinical growth and competence and to complete, upon request of School, up to three evaluation reports on forms

to be provided by School. Upon request of School, the evaluation process will include a conference between the student and Facility's applicable supervisor at the time the final report is completed. Facility shall use reasonable efforts to ensure the evaluation report is sent to School by the date requested. Facility further agrees to maintain during the term of this Agreement such other records as School may reasonably request to evaluate each student's performance in the Program.

- I. **Suspension From Program.** Facility, in its sole discretion, may temporarily or permanently suspend, and/or may request School to permanently or temporarily withdraw, as Facility deems appropriate under the circumstances, any student from the Program who has failed to comply with Facility's policies and procedures or whose conduct, competence, attitude or health status may have a detrimental effect on Facility's professional staff or its patients. Facility shall use its best efforts to notify School of the need for such temporary or permanent suspension or withdrawal as soon as possible. Wherever possible, as determined by Facility in its sole discretion, such suspension or withdrawal shall be planned cooperatively by Facility and School, and any grievance against any student shall be discussed with the student and School's ACCF; provided, however, that certain circumstances may exist, as interpreted by Facility in its sole discretion, which require Facility to suspend a student effective immediately in which event there shall be no opportunity to provide prior notice or to work cooperatively with School in resolving any grievance involving such student.
- J. **Inspection of Records/Facility.** Facility agrees, upon reasonable request made by School at any time during the term of this Agreement or within three (3) years after the termination of the Agreement, to permit inspection by School and appropriate accrediting agencies between the hours of 9:00 A.M. and 5:00 P.M., Monday through Friday only, of Facility's student records, or other records or items or premises of Facility which pertain in any way to the Program or to the School's students. Facility agrees not to dispose of or destroy such records for a period of at least three (3) years after the termination of this Agreement.

III. Additional Responsibilities of School and Facility:

- A. **Indemnification.** School agrees to defend, indemnify, and hold harmless Facility and its staff, directors, trustees, partners, limited partners, officers, contractors and employees from and against all claims, judgments and liabilities (including reasonable attorney's fees and expenses incurred in the defense thereof) relating to personal injury or property damage arising out of the acts or omissions of the School's students, faculty members, employees or agents or relating to School's, or any student's or faculty member's breach, of this Agreement, including those obligations pertaining to patient confidentiality. Facility agrees to defend, indemnify and hold harmless School and its governing board and council, respective board and council members, trustees, officers, employees and students from and against any and all claims, judgments and liabilities (including reasonable attorney's fees and expenses incurred in the defense thereof) relating to personal injury or property damage arising out of conditions existing at the Facility, to the extent the same are not caused by the acts or omissions of School's students, faculty members, employees or agents, or arising out of the acts or omissions of Facility's employees or agents in connection with the Program. Each party agrees that it shall give the other party prompt notice of any claim, threatened or made, or suit instituted against it, which could result in a claim for indemnification pursuant to the terms hereof. This Section III I shall survive any termination or the expiration of this Agreement.

- B. Unlawful Discrimination.** It is mutually agreed that no person shall be subject to unlawful discrimination in connection with the Program on the basis of race, color, religion, sex, sexual orientation, gender identity or gender expression, genetic information, national origin, age, veteran status, disability or any other legally protected characterization.
- C. Entire Agreement/Amendments.** This Agreement contains the entire agreement and understanding of the parties hereto relating to the subject matter hereof and supersedes all other prior understandings or agreements, written or oral, relating to the subject matter hereof. This Agreement may be modified only by written amendment signed by duly authorized representatives of each party.
- D. Independent Contractor.** This Agreement is not intended, and shall not be construed, to create an employment, partnership, joint venture or principal-agent relationship between Facility and School or between Facility and the students in the Program. School, and School's employees, faculty and students, and Facility shall be treated for all purposes as independent contractors. The parties understand and agree that no student will be covered under the Facility's workers compensation policy or covered by the Facility's self-insurance fund if the Facility is self-insured for purposes of workers compensation. Facility shall not be obligated to provide any type of wages or other compensation or insurance coverage to students participating in the Program.
- E. Termination.** This Agreement may be terminated at any time by either party upon sixty days' notice in writing to the other at the address set forth below; provided, however, (a) if at any time, in the sole judgment of Facility, (i) the existence of this Agreement compromises the safety or welfare of patients or the quality of care provided to patients or (ii) the quality of academic training provided to students is such that it undermines the delivery of healthcare services by Facility to patients or (b) for any breach of this Agreement by School, Facility may terminate this Agreement, without notice, effective immediately. Any termination upon sixty (60) days notice shall not take effect until the students already accepted for placement in the Program have completed their scheduled clinical training:

If to Facility:

Rhode Island Hospital
Manager, Graduate Medical Education
593 Eddy Street
Providence, RI 02903

If to School:

Physics Department
University of Rhode Island
2 Lippitt Road, East Hall
Kingston, RI 02881

F. Waiver. The failure of either party to insist in any one or more instances upon the performance of any term or condition of this Agreement shall not be construed to be a waiver of future performance of any such term or condition, but the obligation of the other party to strictly perform such term or condition shall continue in full force and effect.


G. Governing Law. This Agreement shall be construed and interpreted in accordance with the laws of the State of Rhode Island, as in effect from time to time.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the year and day first above written.

RHODE ISLAND HOSPITAL

UNIVERSITY OF RHODE ISLAND

By: James A. Arrighi, M.D.
Title: Director, Graduate Medical Education

Signature: 

By: Sharon B. Bell
Title: Controller

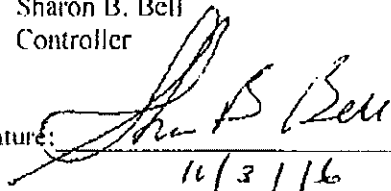
Signature: 
11/3/16

EXHIBIT #1: Student's Attestation

In accordance with R.I. General Laws Chapter 11-37.3, I certify that I am not currently registered, or required by law to be registered, as a sex offender in Rhode Island or in any other jurisdiction, as a result of being convicted of a sexual offense against a minor. If, during my placement at the Facility, I am convicted of a relevant offense and am required by law to be registered as a sex offender in Rhode Island or in any other jurisdiction, I shall immediately notify my School of this change and my School shall immediately notify the Facility and remove me from any Facility/Lifespan premises. If I fail to so notify my School of such a change in my status, I understand that my School or the Lifespan Facility may remove me from the Lifespan Facility's premises immediately and/or the Facility may have grounds for an immediate termination of its contract with my School.

Print Name: _____

Signature: _____

Date: _____

THE
UNIVERSITY
OF RHODE ISLAND
FACULTY SENATE OFFICE


Green Hall, 35 Campus Avenue, Kingston, RI 02881 USA p: 401.874.2618



Serial Number #15-16—10C

TO: President David Dooley
FROM: Joëlle Rollo-Koster, Chairperson of the Faculty Senate

1. The attached BILL titled, Curricular Report No. 2015-16-1 from the Graduate Council to the Faculty Senate: Curricular Changes to Medical Physics and Master of Oceanography programs, is forwarded for your consideration.
2. This BILL was adopted by vote of the Faculty Senate on November 19, 2015.
3. After considering this bill, will you please indicate your approval or disapproval. Return the original, completing the appropriate endorsement below.
4. In accordance with Section 10, paragraph 4 of the Senate's By-Laws, this bill will become effective December 10, 2015 three weeks after Senate approval, unless: (1) specific dates for implementation are written into the bill; (2) you return it disapproved; or (3) the University Faculty petitions for a referendum.

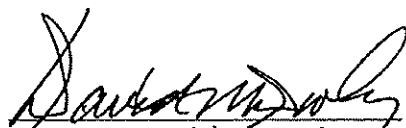

Joëlle Rollo-Koster
Chairperson of the Faculty Senate

November 19, 2015

ENDORSEMENT

TO: Chairperson of the Faculty Senate
FROM: President of the University

- a. Approved ☒.
- b. Approved subject to Notice of the Council on Postsecondary Education ☒.
- c. Disapproved ____.


Signature of the President

12.2.15
(date)

GRADUATE COUNCIL CURRICULUM REPORT #1, OCTOBER 2015

Physics

A. PROGRAM INFORMATION

1. Name of institution
University of Rhode Island
2. Name of department, division, school or college
Department: Physics
College: A&S
3. Intended initiation date of program change. Include anticipated date for granting first degrees or certificates, if appropriate.
Initiation date: Fall 2016
First degree date: Spring 2018
4. Intended location of the program
URI, Rhode Island Hospital
5. Summary description of proposed program (not to exceed 2 pages).

Medical Physics Track: Five-Year Program leading to a B.S. in Physics and an M.S. in Medical Physics.

The field of medicine is facing a significant shortage of well-trained and qualified clinical medical physicists, due to the increasing use of complex technology in the field of radiation oncology and medical imaging. Consequently there is a growing demand for the training of professionals in medical physics. Only specially created programs can accomplish this mission, since among other things medical physics requires a multidisciplinary effort.

This degree program provides students with rigorous training in essential undergraduate and graduate physics courses, as well as in medical physics courses. Students are introduced to both research and clinical aspects of modern medical physics through the Rhode Island Hospital state-of-the-art medical imaging and therapy facilities. The program is based on the B.S. and M.S. programs in physics with the introduction of additional courses in photo medicine, nanotechnology, radiation physics and dosimetry, radiation oncology, radio-biology, and a clinical practicum. These courses are taught by the URI Physics Department, the Rhode Island Hospital-Brown University Medical School Faculty, and the staff at the RI Nuclear Science Center at the Bay Campus.

Matriculation in this program requires that the student apply and be accepted; it is not automatic. It is possible that a student will enter the program having taken some of the courses

but not all. It is mandatory that the student take all of the courses (or show credit in them) in order to graduate. The schedule outlined below demonstrates that it is possible to get both degrees in five years. Where we have written two courses separated by an "or" (e.g., PHY 322 or 420) the student is to take whichever course is offered that semester. The student must have credit in both courses, however, at the end of the curriculum.)

Freshman Year First semester:

BIO 121 + lab; MTH 141; PHY 203H, 273H; URI 101; two 3-credit Basic Liberal Studies course (total 19 credits).

Second semester:

BIO 242, 244; CHM 101, 102; MTH 142; PHY 204H, 274H; one 3-credit Basic Liberal Studies course (total 19 credits).

Sophomore Year First semester:

CSC 211; MTH 243; PHY 205H, 275H, 210; 6 credits of Basic Liberal Studies courses (total 18 credits).

Second semester:

MTH 244; PHY 306, 402, 410; 9 credits of Basic Liberal Studies courses (total 19 credits).

Junior Year First semester:

MTH 215; PHY 322 or 420, 381, 451; SOC 224; 3 credits of Basic Liberal Studies courses (total 18 credits).

(In the beginning of the sixth semester, the student can begin the application process to be admitted to the graduate program. This is necessary only if the student is planning on getting both the master's and bachelor's degrees after five years. The application will be evaluated by a committee of faculty formed for that purpose, and it will be the sole determiner of who goes on in that year. At that time it will still be possible to get a simple B.S. in physics in the standard four years.)

Second semester:

PHY 331, 382, 455, 570; 6 credits of Basic Liberal Studies courses (total 18 credits).

Senior Year First semester:

ELE 564, 565; PHY 322 or 420, 540, 550; STA 411 (total 16 credits).

Second semester:

PHY 545 or 560, 552, 565 or 585, 591 (total 14 or 15 credits).

Fifth Year First semester:

PHY 401, 483, 555; PHY510 or CSC 593 (total 11 credits).

Fifth Year Second semester:

PHY 484, 545 or 560, 565 or 585 (total 10 or 9 credits).

Proposed URI catalog language for graduate program

Master of Science in Medical Physics

Admission requirements: GRE and advanced test recommended; bachelor's degree with major in physics or related discipline.

Program requirements: PHY 540, 545, 550, 552, 555, 560, 565, 585, 591; ELE 564, 565 are required courses. The following introductory courses or their equivalents, which could be taken at URI or other places, are required but not as program credit: BIO 121 + lab, 242 + lab; PHY 210; SOC 224. The student will complete 30 credits, of which no more than six may be below the 500 level. This is a non-thesis program which requires that at least one course will require a substantial paper involving significant independent study, and the student must pass a final written and oral examination.

Additional changes to the Catalog:

Existing:

PHY 550: Introduction to Radiation Physics and Dosimetry

Proposed:

PHY 550: Introduction to Radiation Physics and Dosimetry

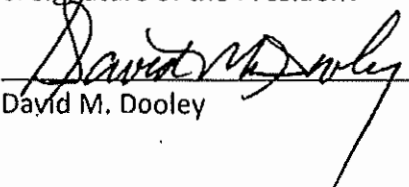
Existing:

PHY 555: "Provide the student a base knowledge and overview of a medical physics in the environment of a modern radiation oncology practice,"

Proposed:

PHY555: "Provide the student a base knowledge and overview of medical physics in the environment of a modern radiation oncology clinical practice,...."

6. Signature of the President



David M. Dooley

NOTICE OF CHANGE FORM

Notice of Change for: Expanding The Culminating Experience Requirements for MESM

Date: 15 August 2017

A. PROGRAM INFORMATION

1. Name of institution

University of Rhode Island

2. Name of department, division, school or college

Department: N/A

College of the Environment and Life Sciences

3. Intended initiation date of program change. Include anticipated date for granting first degrees or certificates, if appropriate.

Initiation date: 1 January 2018

First degree date: May 2018

4. Intended location of the program URI Main Campus

5. Summary description of proposed program (not to exceed 2 pages).

The Masters of Environmental Science and Management (MESM) is an interdisciplinary, interdepartmental Masters Degree program within URI's College of the Environment and Life Sciences (CELS) that is focused on building expertise for working professionals. Students who want to further their careers with private sector firms, governmental agencies, or non-profit organizations enroll in this degree.

MESM currently has approximately 50 students enrolled in it. The MESM program is normally completed in 16-21 months of full-time study. Part-time students require a longer time to complete the curriculum.

The MESM program prepares students to apply environmental science and technology to real-world problems. There are seven unique specializations that are available within MESM. It includes a culminating experience rather than an independent, hypothesis-based research project, differentiating it from the Master of Science in Environmental Sciences degree program offered in CELS.

Currently, all MESM tracks require a single type of culminating experience -- the completion of a major paper project in EVS 598. This is usually an individually-based activity and is almost always done in the student's final semester. We wish to expand our culminating experience requirement options to include other courses where students synthesize, integrate, and apply knowledge and skills: these options would consist of

either a course in environmental leadership or a graded, off-campus internship with a practitioner in environmental management. These options are excellent training for part-time, currently employed students, students not pursuing a research career, or students wishing hands-on experience in environmental management.

The URI Graduate Manual requires that all non-thesis masters programs include a “.... *a culminating experience that demonstrates the student’s ability to synthesize, integrate, and apply knowledge and skills acquired in the master’s program.*” For MESM, this is a capstone experience. The URI catalog defines a capstone experience as one that “...*integrates course work throughout the program. Capstone experiences include courses, internships, portfolios, design projects, etc.*” Our proposed enhancement of culminating experiences in MESM are all associated with courses.

We propose to add EVS 505 – Environmental Leadership in Practice as a culminating experience course. The basic elements of the course were taught for the first time through NRS 568, Recent Advances in Natural Resources Science during the spring semester of 2017 and the approach and assignments were found to be an excellent culminating experience for MESM. Students were required to integrate the social sciences, natural sciences, and communication skills that they acquired in their MESM studies. Students participated in a number of off-campus case studies and participated in a group policy development project for the Town of Narragansett.

We also request that EVS 597, our graduate internship course, be considered a culminating experience as well. We have heard time after time from our alumni that their mentored internship experience, which emerged out of a learning contract with the mentoring organization, was one of the most powerful aspects of their MESM studies. These professional internship experiences provide students with the opportunity to synthesize, integrate, and apply knowledge and skills acquired through coursework and provide networking contacts that often directly led to full-time jobs.

6. If applicable, please include the existing URI catalog language and proposed catalog changes **indicated in Track Changes**.

Proposed Catalog Language

Program requirements: A minimum of 36 credits of course work consisting of 21-25 credits of core courses, including at least 9 credits in natural sciences, at least 6 credits in social sciences, and at least 3 credits in numerical methods; 6-10 credits of electives, up to 3 credits of which might be an internship (EVS 597) with an environmental agency, nongovernmental agency, or private firm; ~~an independent research project (EVS 598) that culminates in a substantial, high quality, written report;~~ and at least 2 credits of graduate seminar (typically EVS 501, 502), including a terminal oral presentation. All students are required to complete a culminating experience, which consists of the successful completion of one of the following: EVS 598, Professional Masters Research; EVS 597,

Professional Internship in Environmental Science and Management; or EVS 505,
Environmental Leadership in Practice.

7. Signature of the President

David M. Dooley

Masters of Environmental Science and Management Program Check Sheet

Student _____

Track

- ☐ Conservation Biology
- ☐ Earth and Hydrologic Science
- ☐ Environmental Planning and Design
- ☐ Environmental Policy and Management

- ☐ Remote Sensing and Spatial Analysis
- ☐ Sustainable Systems
- ☐ Wetland, Watershed, and Ecosystems Science

Track Chair _____

Program of Study Filed (Date) _____

Core Courses:

Natural Sciences (9 cr)

Semester	Course Code	Description

Social Sciences (6 cr)

Semester	Course Code	Description

Quantitative Methods (3 cr)

Semester	Course Code	Description

Seminar (2 cr)

Semester	Course Code	Description

Courses Required in Track

Semester	Course Code	Description

Culminating Experience (Choose at least one)

Internship (EVS 597)

Semester	Location	Description

Major Paper (EVS 598)

Semester	Faculty Reviewer	Description

Environmental Leadership (EVS 505)

Semester	Course Code	Description

Elective Courses

Semester	Course Code	Description

Total Credits (must be 36 or more) _____

Number of credits at 400-level _____ **Number of credits at 500-level** _____

(N.B. At least half of the Program of Study credits must be at or above the 500 level)

Rev: 8/16/2017

Masters of Environmental Science and Management Program Check Sheet

Student _____

Track

- ☐ Conservation Biology
- ☐ Earth and Hydrologic Science
- ☐ Environmental Policy and Management

- ☐ Remote Sensing and Spatial Analysis
- ☐ Sustainable Systems
- ☐ Wetland, Watershed, and Ecosystems Science

Advisor _____

Program of Study Filed (Date) _____

Comprehensive Exam Taken (Date) _____

Core Courses:

Natural Sciences (9 cr)

Semester	Course Code	Description

Social Sciences (6 cr)

Semester	Course Code	Description

Quantitative Methods (3 cr)

Semester	Course Code	Description

Internship (EVS 597) (Optional, but recommended)

Semester	Location	Description

Major Paper (EVS 598)

Semester	Faculty Reviewer	Description

Seminar (2 cr)

Semester	Course Code	Description

Classes Required in Track

Semester	Course Code	Description

Elective Classes

Semester	Course Code	Description

Total Credits (must be 36 or more) _____

Number of credits at 400-level _____ **Number of credits at 500-level** _____
(N.B. At least half of the Program of Study credits must be at or above the 500 level)

NOTICE OF CHANGE FORM

Notice of Change for: Masters of Arts in Education and Master of Arts in Special Education

Date: 9/15/17

A. PROGRAM INFORMATION

1. Name of institution

University of Rhode Island

2. Name of department, division, school or college

Department: School of Education

College: ASF College of Education and Professional Studies

3. Intended initiation date of program change. Include anticipated date for granting first degrees or certificates, if appropriate.

Initiation date: January, 2018

First degree date: May, 2018

4. Intended location of the program

Kingston/Providence/Online

5. Summary description of proposed program (not to exceed 2 pages).

The School of Education MA in Education and MA in Special Education will no longer require comprehensive exams. Rather, all MA students (as is current practice) will complete a field study/practicum as their culminating experience.

(See attached description)

6. If applicable, please include the existing URI catalog language and proposed catalog changes indicated in Track Changes.

MASTER OF ARTS (in Education)

Program requirements: Individuals may choose the thesis or non-thesis option. Required are 30 credits for the elementary and secondary specialization; 33 credits for the adult education specialization; and a minimum of 34 credits for reading education; including a required core

of at least six credits (a foundation and a research methodology course); two electives (six credits), and an academic specialization (18-24 credits). The non-thesis option requires ~~a written comprehensive examination and~~ at least one designated course with a substantial paper involving significant independent research.

MA in Special Education

Program requirements: The graduate program in special education enables students to meet the Council for Exceptional Children standards and the requirements for a RI special education teaching certificate in the area of mild/moderate disabilities either at the elementary school level (grades 1-6) or at the secondary level (grades 7-12). Students complete a total of 36 credits over either a three-semester sequence (for full-time students) or a five-semester sequence (for part-time students). Students must also achieve a passing score ~~on the comprehensive exams and~~ on all state or University outcome measures, and on a substantial paper involving significant independent research. Courses required for elementary certification include EDS 500, 501, 502, 503, 504, 505, 506, 509, 510, 511, 512, 518. The secondary certification requires EDS 500, 501, 503, 504, 507, 508, 511, 513, 516, 517, 518, 520.

7. Signature of the President

David M. Dooley

Notice of Change:

Program: MA in Education, MA in Special Education

Change:

Delete requirement for comprehensive examination

Rationale:

In January of 2017, the Graduate Council approved a change in policy regarding comprehensive exams. Comp exams for non-thesis master's programs are now optional. The School of has voted to remove the requirement of comprehensive examinations.

All students in MA in Education and MA in Special Education currently conduct a field study/practicum as a capstone experience. For a field study/practicum, students must develop a research question(s) or topic to explore, conduct a literature review, collect data or develop their product, analyze data or evaluate the product, and write a report of findings. They also present these findings to the larger URI community at the School of Education's Research Night.

Given the nature of the field study, we feel it better demonstrates the application of knowledge gained throughout the SOE master's programs.

In order to ensure that the programs continue to collect data on student outcomes, students will upload field study/practicum reports to the SOE's electronic portfolio/ data collection system (Task Stream). We will use a rubric to evaluate students' work. Students must "meet the standard" on the rubric to have fulfilled this requirement.

Change in catalog language

MASTER OF ARTS (in Education)

From:

Program requirements: Individuals may choose the thesis or non-thesis option. Required are 30 credits for the elementary and secondary specialization; 33 credits for the adult education specialization; and a minimum of 34 credits for reading education; including a required core of at least six credits (a foundation and a research methodology course); two electives (six credits), and an academic specialization (18-24 credits). The non-thesis option requires a written comprehensive examination and at least one designated course with a substantial paper involving significant independent research.

To:

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